AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (canceled)

Claim 2 (currently amended): An oligonucleotide for ~~A composition to~~ selectively ~~prevent~~ preventing or ~~modulate~~ modulating gene expression in a sequence-specific manner in a host; wherein said oligonucleotide is a uniformly sugar-modified oligonucleotide, based on 2'-deoxy-2'-fluoro-β-D-arabinonucleotides. ~~which comprises an effective amount of at least one oligonucleotide selected from the group consisting of an oligonucleotide consisting of β-D-arabinose sugars hybridizing to a complementary RNA to induce RNase H activity[[;]], an oligonucleotide consisting of β-D-arabinose sugars substituted at the 2' position of the sugar rings with halogen, alkyl, alkylhalide, alkylsulfhydryl, allyl, amino, aryl, alkoxy, or azido and hybridizing to a complementary RNA to induce RNase H activity, and an oligonucleotide consisting of β-D-arabinose sugars substituted at the 2' position of the sugar rings with halogen, alkyl, alkylhalide, alkylsulfhydryl, allyl, amino, aryl, alkoxy, or azido and hybridizing to duplex DNA/DNA or DNA/RNA to form a triple helical complex; in association with an acceptable carrier~~

Claims 3-6 (cancelled)

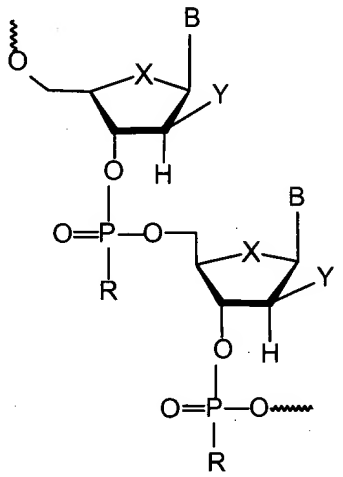
Claims 7 (withdrawn): A method for cleaving single stranded RNA, which comprises the steps of:

a) hybridizing in a sequence specific manner an oligonucleotide consisting essentially of arabinose sugars to a single stranded RNA to induce RNase H activity; and

a) allowing said induced RNase H to cleave said hybridized single stranded RNA.

Claim 8 (withdrawn); A method to inhibit DNA replication and/or DNA transcription, which comprises hybridizing in a sequence specific manner an oligonucleotide consisting essentially of arabinose sugars substituted at the 2' position of the sugar ring with halogen, alkyl, alkylhalide, alkylsulfhydryl, allyl, amino, aryl, alkoxy, or azido to duplex DNA/DNA or DNA/RNA to form a triple helical complex; thereby inhibiting DNA replication and/or DNA transcription.

Claim 9 (withdrawn): The method of claim 7, wherein said oligonucleotide has the formula:



wherein,

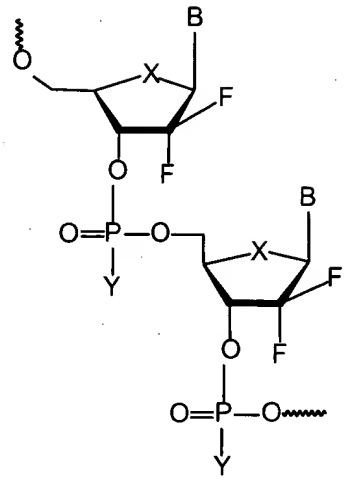
B is selected from the group consisting of adenine, guanine, uracil, thymine, cytosine, inosine, and 5-methylcytosine;

Y at the 2' position of the sugar ring is selected from the group consisting of a halogen (fluorine, chlorine, bromine, iodine), alkyl, alkylhalide (e.g., $-CH_2F$), alkylsulfhydryl ($-SCH_3$), allyl, amino, aryl, alkoxy, and azido;

R at the internucleotide phosphate linkage is selected from the group consisting of oxygen, sulfur, methyl, amino, alkylamino, dialkylamino (the alkyl group having one to about 20 carbon atoms), methoxy, and ethoxy; and

X at the furanose ring (position 4') is selected from the group consisting of oxygen, sulfur, and methylene (CH_2).

Claim 10 (withdrawn): The method of claim 7, wherein said oligonucleotide is



wherein,

B is selected from the group consisting of adenine, guanine, uracil, thymine, cytosine, inosine, 5-methylcytosine;

Y at the internucleotide phosphate linkage is selected from the group consisting of oxygen, sulfur, methyl, amino, alkylamino, dialkylamino (the alkyl group having one to about 20 carbon atoms), methoxy, and ethoxy; and

X at the furanose ring (position 4') is selected from the group consisting of oxygen, sulfur, and methylene (CH_2).

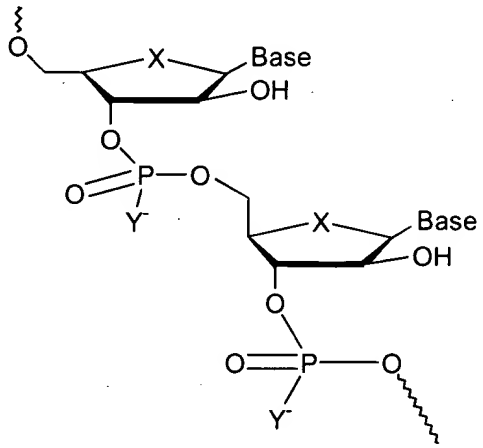
Claim 11 (withdrawn): The method of claim 7 wherein said oligonucleotide is chemically modified at least at one site with a ligand or a pharmaceutical agent to enhance at least one of: (i) permeability of said oligonucleotide into cells,)ii) nuclease stability, or (iii) binding strength of hybridization to complementary sequences.

Claim 12 (withdrawn): The method of claim 11, wherein the ligand is a cell surface receptor, at least one L-sugar residue, a 3'-to-3' linked nucleotide, at least one 2-O-methyl-D-ribose sugar.

Claim 13 (withdrawn): The method of claim 7, wherein said RNA is complementary RNA.

Claim 14 (withdrawn): The method of claim 13, wherein said complementary RNA is cellular mRNA or viral RNA.

Claim 15 (withdrawn): A method for selectively cleaving RNA, which comprise selectively hydrodizing an oligonucleotide consisting essentially of B-D-arabinofuranose nucleotide units to RNA without hydrodizing to single stranded DNA in a sequence specific manner, said oligonucleotide has the formula:



wherein said oligonucleotide has a mixed base composition;

B is selected from the group consisting of adenine, guanine, uracil, thymine, cytosine, inosine, 5-methylcytosine;

Y at the internucleotide phosphate linkage is selected from the group consisting of oxygen, sulfur, methyl, amino, alkylamino, dialkylamino (the alkyl group having one to about 20 carbon atoms), methoxy, and ethoxy; and

X at the furanose ring (position 4') is selected from the group consisting of oxygen, sulfur, and methylene (CH_2).

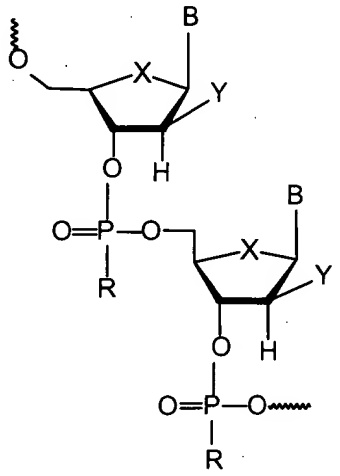
Claim 16 (withdrawn): A method of catalyzing chemical reactions carried out by nucleic acid enzymes, which comprises using the composition of claim 2.

Claim 17 (withdrawn): The method of claim 7 wherein said oligonucleotide is a chimera of at least one ANA nucleotide unit and at least one 2'F ANA nucleotide unit to enhance at least one of: (i) permeability

of said oligonucleotide into cells,)ii) nuclease stability, or (iii) binding strength of hydribization to complementary sequences.

Claims 18-35 (canceled)

Claim 36 (currently amended): ~~An oglionucleotide~~ Oligonucleotide according to claim 2, wherein said oligonucleotide has ~~consisting of β-D-arabinose sugars substituted at the 2'-positions of the sugar rings and having~~ the formula:



wherein,

B is selected from the group consisting of adenine, guanine, uracil, thymine, cytosine, inosine, and 5-methylcytosine;

Y at the 2' position of the sugar ring is fluorine ~~hydroxy~~;

R at the internucleotide phosphate linkage is selected from the group consisting of oxygen, sulfur, methyl, amino, alkylamino, dialkylamino (the alkyl group having one to about 20 carbon atoms), methoxy, and ethoxy; and

X at the furanose ring (position 4') is ~~selected from the group consisting of~~ oxygen~~, sulfur, and methylene (CH_2)~~;.

~~and having at least one 2-O-methyl-D-ribose sugar at 3', 5' or both terminus of said oligonucleotide consisting of β-D-arabinose sugars.~~

Claims 37-42 (canceled)

Claim 43 (new): Oligonucleotide according to claim 2, wherein R at the internucleotide phosphate linkage is oxygen.

Claim 44 (new): Therapeutic composition for selectively preventing or modulating gene expression in a sequence-specific manner in a host, wherein said composition comprises an effective amount of at least one oligonucleotide according to any one of claims 2, 36 and 43 and a pharmaceutically acceptable carrier.

Claim 45 (new): Therapeutic composition according to claim 44, wherein said oligonucleotide is capable to hybridize to complementary mRNA and induce (RNase H)-mediated cleavage thereof.

Claim 46 (new): Therapeutic composition according to claim 4, wherein said oligonucleotide is capable to bind at least one of duplex DNA and hybrid DNA/RNA.